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TAFT BROOME: All right, let's have a debriefing on Doctor Widnall's discussion. You can repeat what you said earlier, but let's go into a little bit deeper. And let's do it with the possibility in mind that we may want to get back in touch with it. So what did you think?

STUDENT: I really enjoyed it. I mean, one of the best things is she started out by saying don't be cynical, which is really great. It's always good to see people who've been in organizations for years, 20, 30, 40 years, and they still have such a positive view of the organization. There's a tendency-- I know any place I worked for for more than a couple of years must be, like, this place is a mess.

It's really good to see that she just has the best attitude. It's not cynical. She still believes in MIT and [INAUDIBLE]. Yeah, it is wonderful.

So that was the first point she made that was great. And then I think she broke it down into three sections-- individual values, professional values, institutional values, and just talked about the three [INAUDIBLE] with detail. I also appreciated that she viewed ethics as a practical tool for life and for running organizations, but not because society is corrupt and organizations are corrupt.

That's why she started, I think, by saying, "Don't be cynical." You can be a positive force. Other people can be positive and make the right choice as well. So I appreciated that.

And I found it interesting that she could not think of it any times when her individual values have not come into conflict with the values of her profession or institutions [INAUDIBLE]. What do you do when your individual ethics conflict with organizational ethics? [INAUDIBLE] that I really can't think of a time when that happened. [INAUDIBLE].

But I think it really speaks-- she comes across as one of those people that just changes, like she enters the room and she takes charge. And she just kind of [INAUDIBLE]. Any position you put her in, she's not going to let it get to the point.

And I mean, she said now she's older, so she has more weight and she can change the direction that organizations go. But I just think for someone like me, who's going to start an organization, it's probably going to be difficult to reconcile.

TAFT BROOME: Excuse me, say that part again.

STUDENT: I think for someone just new to an organization, whatever field I go into--

TAFT BROOME: I thought you said you were going to start an organization.

STUDENT: Well, yeah, if I do, I think it's probably a little more difficult to reconcile your own individual personal values with the organization if you're not in some kind of leadership position. I mean, she put a lot of emphasis on leadership and [INAUDIBLE] the ethical [INAUDIBLE] morals. And then she put a lot of weight on the leadership. And if you're not in that leadership position, I think it's still pretty difficult [INAUDIBLE].

TAFT BROOME: You all still have the floor, but I'd like to comment on some things. Let's start on this one on the way back. Is there a-- I mean, it's reasonable and I've seen it happen, but what do you think, that you really have a catch-22 when it comes to leadership. A person wouldn't make it to a leadership position if they had a whole lot of conflict.

STUDENT: Wait, they wouldn't make it if they did have [INAUDIBLE]?

TAFT BROOME: Yeah, if you have a lot of conflicts with an organization.

STUDENT: Oh, conflicts.

TAFT BROOME: Conflicts. If you have a lot of conflicts, my Southern accent creeps in. Somebody told me at a meeting that asked me to repeat something. This was just about two weeks ago. This was when I was in Texas.

STUDENT: Texans should not talk.

TAFT BROOME: Well, I said-- I didn't say like I usually say, "parked." I said "pahked." And they didn't know what that meant. They said, you're getting to sound like you're from Boston. I said, I didn't realize it was taking [INAUDIBLE].

But I think that if you have a whole lot of conflicts with an organization, that over time you will not be able to hide them, and that no matter how much you try to fit in, and that that will, on some level, hinder your progress. So you might not make it to the top unless you fit in pretty well naturally-- not force fit in, but fit it naturally. And people can tell these things.

Human beings are very good at this. And they are good at it when there's a lot at stake-- people's careers, the company, all of that. So they are good at it. I told a story about the old blues at Yale. That's the ultimate story of fitting in.

I talk about whistleblowing. I've talked about whistleblowing to students over the past years. And one question that I always get is, what did you do when somebody told you to do something that you thought was immoral? Did you blow the whistle? And I tell them pretty much what Sheila said. And that is that nobody ever asked me to do anything corrupt.

STUDENT: That is basically what she said.

TAFT BROOME: And then people say, well, why is it that nobody ever asked you to do anything corrupt? And I said, well, it depends on whether or not the person-- I have an answer depending on whether or not the person who would ask me to do it is corrupt. If the person who would ask me to do something is corrupt-- and that's what happens in a lot of whistleblowing situations.

Somebody is corrupt and wants to co-opt you in being corrupt with them. When it comes out in the end, they'll say they never did it. They never told you to do these things. But nevertheless, many times it starts out with somebody who really wants to be corrupt.

A corrupt person-- now this answer is not going to be abstract. Just imagine that Sheila Widnall is sitting in this chair, and imagine that you want to be corrupt today. Look at her in the eye. You wouldn't even ask her. This is not the person.

So what happens is, I think, that you know who to ask and who not. And the worst of all possibilities is not so much a person who won't do it. The worst of all possibilities for a corrupt person is a person who does it, and then their conscience is bothering them later on.

And then they say, I'm stepping forward. I just cannot live with this any longer. Now, that's something a corrupt person cannot live with, because the deed is done, first of all, and for no reason.

I mean, it has worked out. Nobody's asking any questions. The shit flew, landed. This person gets up and starts blowing the whistle on everybody, even if they have to go to jail. That's the nightmare of the whole situation.

Now what I said-- I think I gave you a little blue reprint of something I wrote. What I said was that at root of all morality-- I'm taking a platonic point of view, that morality is basically a character issue. And the character issue is not so much evil and good. The character issue is more like immature/mature.

An immature person, I don't care if they're 40 years old, just cannot extend the moral universe very widely. They don't care about a lot of people. And so what I want to say, then, is that-- and this is documented, too-- that you can tell an immature personality in a mature person.

And you don't have to wait long. And one of the things you can do is-- now I'm going to speak to you from experience. Look at the person's eye. If you see that little child-like twinkle in their eyes, kind of cute, that's the one to avoid.

Because that person, when the chips come down, you got to go. You are no longer in their ethical universe when it comes down to-- now before that, if you want to go out and have a beer with these people, you can have a lot of fun. In other words, what I'm trying to say is, I have already written about this person, and I call that person Tubby. That's what we're talking about.

And when they get in big positions of power, they're still 14-year-olds. And they will act that way when the time comes. They know how to imitate very well. I mean, they can imitate Charles de Gaulle for a while. You don't know. But after a while, and when the situation comes, that little glint in their eye.

And even paleontologists are taking this whole issue seriously. Guess how? They're talking about how dinosaurs raised their little ones, and how the little ones had these big eyes.

And they're beginning to speculate that these big eyes-- there's a certain childlike feature that the brain is wired to respond to in a caring kind of way. They are talking about that. And they're painting these pictures.

And they think that there's something universal among sentient animals. I'm not talking about Komodo dragons, but in sentient animals that have to raise their offspring, where that maternal instinct in males and female gets aroused by the eyes. Yeah.

STUDENT: [INAUDIBLE] all young are like that. Your eyes don't really change in size as you get older, but your head does. So when you're little, your eyes seem really big. That's the way I understand it. That's really interesting to hear that they think that has a response--

TAFT BROOME: Yes, now I'm talking about-- here's the level of my credibility-- I'm talking about the Discovery Channel type stuff, where they bring on these super experts. And the experts will say that. I mean, they said it right on television. I've not seen it in a research paper.

But this is a graduate class. I can say these things because if you really want to know the truth, you're supposed to go to the library. In an undergraduate class, I wouldn't say it unless I had a reference for them. But that's where they go with that.

So yeah, getting back to where it all began, that there are a lot of people who really don't seem to have these problems. And it's not a matter of luck. It's a matter that if a corrupt person wants to do something corrupt, that they will look at you in the eye, and just say, you're not the one that I want to intimidate. Because like I said, I can intimidate you.

You do it. You're scared of me. It's done. And a year later, the whole thing falls apart. I can't take it anymore.

So that's good, platonic ethics. Plato would say that a really ethical person does not necessarily solve the problem. But when they don't solve the problem, they wrestle with it and they suffer.

You all cut back in here if you-- I'm just getting off on Sheila's-- another thing she said that's good for my work that I brought to the class, but for my part, the research is done, and that is this whole question, again, about corporations or large organizations have a moral agency.

Can a corporation be evil? Can a corporation be unethical? And that the best literature in philosophy right now says no, a corporation can have personhood in law, and commit a crime, and be punished for it, but a corporation cannot be a moral agent.

And what I see is that there's just too much opposition to that view on a passionate level. There are too many people who are saying, in important places and writing down important evaluations, talking about culture-- corporate and government culture-- and assigning moral terms to cultures. And the NASA Columbia evaluation was officially written down that the culprit was NASA culture. And I've seen the same thing with Enron. So that was important to me for my work.

STUDENT: Did you take from it that she doesn't agree with [INAUDIBLE]?

TAFT BROOME: Oh, she made it very clear to me that she thinks that there's such a thing as-- that she will assign moral terms to a culture. She said yes. And she said, MIT is a good culture. Yeah, she said that. So I feel like she would agree with all that. I don't if she would argue it, but I notice she said it, and a lot of people say it.

STUDENT: Maybe I just sense a reluctance [INAUDIBLE] from some of the things that you said about how these corporations-- I mean, most of the people are good [INAUDIBLE] but a lot of times, there can just be a couple of bad people who just make the organization-- I mean, usually in leadership positions [INAUDIBLE] make the [INAUDIBLE] now. So I don't know, it was interesting. I agree, I think she was [INAUDIBLE]. I think it seemed like she [INAUDIBLE] individuals [INAUDIBLE].

TAFT BROOME: No, she definitely did. She started out that way. And I have a way of dealing with that when I start talking about the whole.

My own way of dealing with that is to say that in a very stressful situation that's potentially harmful, that has ethical dimensions involving many people, you will find a few on one side, a few on the other, and 95% of the rest somewhere in the middle. What gives the character to the whole thing is the middle. And I'm talking about if somebody is being abused out here, you can think of the good person as the one who intervenes, and the bad person is the one who's the abuser.

But what gives the character to the society is whether the others sit back and watch. It's the onlookers, the audience. So that plays itself out when it comes to police brutality, because one person is abusing a citizen.

One policeman is abusing the citizen. What makes the whole police force get a bad name is when the others who are standing there watching it just let it happen. They don't tell on the guy.

STUDENT: I think that was in contrast to [INAUDIBLE] They will if you do something bad. [INAUDIBLE] Right, so she was saying that's a good organization because--

TAFT BROOME: Because of the outlook.

STUDENT: Right, the 95% that will see that [INAUDIBLE].

TAFT BROOME: That's right. That's right. Yeah.

STUDENT: [INAUDIBLE]

TAFT BROOME: Yes.

STUDENT: [INAUDIBLE]?

TAFT BROOME: That you will have to ask the OpenWare--

STUDENT: My question is the way that she discussed [INAUDIBLE] adding up the people [INAUDIBLE] the nature of the relationship with people or the environmental factor [INAUDIBLE]

TAFT BROOME: Actually, the--

STUDENT: [INAUDIBLE] doesn't have to do with [INAUDIBLE] not adding [INAUDIBLE].

TAFT BROOME: Well, I'm going to respond first, but just first. The conversation did not go in an analytical direction. We were just talking. And what we're doing is simply synthesizing out some of these points. But she never addressed, I don't think--

STUDENT: She didn't intend to talk about [INAUDIBLE] or to assign the [INAUDIBLE] of good and bad organizations. We asked for that. I think that's what Professor Broome is trying to say. It wasn't an analytical topic [INAUDIBLE] talk about [INAUDIBLE].

TAFT BROOME: Now, excuse me, I'm sorry. I'm sorry, go ahead.

STUDENT: Was looking for a reference [INAUDIBLE] but not [INAUDIBLE] and that is social factors, the way that people react [INAUDIBLE].

TAFT BROOME: We didn't talk about that. She didn't come in here with preparation to talk about that. We asked-- is that right, Tony? I think she responded.

Now, to answer your first question about the tape, yes, this OpenCourseWare will be available, but it won't be available tomorrow. It will be able in the spring. So you will be able to get it.

Now, there's another thing-- you can probably-- Doctor Widnall has given a lot of talks before. And there's no doubt in my mind that she has a PowerPoint presentation on this topic, and that if you ask her, she might be able to just send you one over the email. She probably doesn't have a whole lot of time to do it.

STUDENT: Another reference for organizational culture studies related to Dr. Widnall is the NASA report on the Columbia accident. I don't know if you've read that yet, but half of it is devoted to NASA's organizational culture. And they don't look at-- they don't decide on the organization by adding up [INAUDIBLE] overall culture relationships between people that [INAUDIBLE].

TAFT BROOME: One of the things that she didn't mention, because it had to do with the Challenger accident and not the Columbia, that is documented and discussed is that when Roger Boisjoly said that the weather forecast was prohibitive of the flight because the o-rings would not behave properly in that temperature-- when he said that--

STUDENT: He said that before the launch.

TAFT BROOME: He said it before the launch, and it went up through channels. And there was this meeting of the president with his executive vice president. And that meeting is documented. And I'll give you a reference on that in just a second.

And a discussion took place in that meeting between the Vice President for Engineering and another Vice President. And the Vice President for Engineering said, it's too dangerous to fly. We cannot fly.

And this other Vice President said, OK, that's good advice coming from an engineer. But now, "take off your engineering hat and put on your management hat, and tell us what your advice is." And he changed. He said, we should fly. And that discussion turned the whole problem of flying around.

Now I'll give you the reference. The author's name is Michael Davis, and the book is entitled *Thinking Like an Engineer*. And you can find this quote in the index, "just say Challenger."

So that's a commentary on social on the culture that we're talking about. How does a person see the mission of the organization in terms of their position as an engineer, as a manager? And it can be very different. [INAUDIBLE] it can be very different. OK, let me see.

There was something else that I thought was very important for students that she said. And that was, when you're talking to-- when you have your engineering hat on and you're talking to upper level management, don't talk about your feelings and your woes. Tell them what you want them to do. You want to elaborate on that?

STUDENT: I think she used the term [INAUDIBLE] I can't sleep at night [INAUDIBLE]. You have to say what. What do you want me to do [INAUDIBLE]?

TAFT BROOME: That was good. That was a very good point. Yeah.

STUDENT: I was going to bring that up, too.

TAFT BROOME: In other words, I don't know where this gets taught in university--

STUDENT: It doesn't.

TAFT BROOME: --how to handle, how to talk to different people. I'll tell you one that's very subtle if you're a college professor, is how to talk to a trustee. Never give a trustee more than two pages to read. Best give them a third of a page with what you want them to do at the top, pretty much like what she said, and the reasons in two or three bullets.

And that's it. Never go in a trustee room with a thesis and an argument. The opposite is true when you stand before the faculty. Never go in there with the final result in a few bullets. They'll tear you apart in there.

But if you go before a board of trustees, make it short, straight to the point, and like what Dr. Widnall said, tell them what you want them to do. They'll decide whether they want to do it or not. But if you can't put it in-- I like her terms, actionable form. I would not have said it, used that term before she did.

STUDENT: The only other thing I wanted to add to that, what did you think about what she talked about in terms of core values. And I liked it because she presented everything very pragmatic, and that these core values have this psychic reward, which I think she used. I thought that was interesting, that you can't give-- she introduced a set of core values to the air force, a written down set. And she said you can't give them a lot of money given these enlisted men, but we can give them psychic reward of values.

STUDENT: [INAUDIBLE].

TAFT BROOME: Well, that's a good intro into codes of ethics. Do you have your textbooks? OK, well, let's begin a discussion on codes of ethics.

STUDENT: Could I ask you one question? Were you going to tell us-- was there anything you wanted to tell us about the Texas conference?

TAFT BROOME: I do. I did, yeah.

STUDENT: I just wanted to remind you that you brought that up.

TAFT BROOME: Trying to figure out how to fit it in.

STUDENT: Another time.

TAFT BROOME: No, I want to do it today.

STUDENT: [INAUDIBLE].

TAFT BROOME: It's called Texas Tech University in Lubbock, Texas, in West Texas, in the Panhandle, they call it-- very interesting experience. I tell you what-- I'll do that after I make these points. My assignment now is for you all to read in the textbook everything they have to say about codes of ethics.

And I'll give an introduction to codes of ethics, and I'll start with your question, your question about core values. When you read the code of ethics for your professional organization, and I think it's fair to say that all engineering professional organizations have a code of ethics, 90% of those codes of ethics are younger than 15 years, maybe 20 years. When you read the codes of ethics, you'll discover something, particularly after having this class-- that they are not codes of ethics.

They are better stated as codes of conduct. And they can be called core values. They say what an engineer is. An engineer does not do A. An engineer does B.

And they don't give reasons, but they list them down. They're really core values. They're really trying to describe what I've already said was a gestalt of an organization-- the best parts of that gestalt, now, not all of it.

And they are really like what I've already alluded to, called the old blues. They're really trying to tell you that there's only one way to be an engineer, and that's to be a good one. There's no such thing as a bad engineer. There's an engineer, and then there are other people.

Now, we can argue about all of that. But let's look at the factual situation. There are things called codes of ethics. They have institutional force, and they're highly publicized.

Institutional force means that the board of governors or board of trustees has adopted them for the organization, and that there is a lot of discussion as to whether or not they can enforce them. Because people have been found in violation of the code of ethics, been fired-- or better stated, not been fired, been discharged from the membership and have gone to the courts and have won. So that part of it gets-- the enforceability of it gets to be pretty complex and beyond the scope of this class, because that's law.

However, I've seen some documentation-- I can't put my hands on it right now-- that says that in many cases where an engineer is charged with unethical conduct, that they will agree to go through the process. And they will agree to submit themselves to sanctions. And I can give you a general source for that. The National Society of Professional Engineers undertakes cases.

And they have a public log of those cases. You can get these off the web. So I would invite you to look up. It's called the NSPE. That's probably the website, NSPE, but it stands for National Society of Professional Engineers.

And even though many engineers, by law, do not have to submit themselves to the NSPE, they will, even if they think they might be found guilty. The idea is that you take the penalty. You do whatever they said you're supposed to do.

Usually what that means is that you have to go around to high schools, tell kids not to do what I did, that kind of thing. And you are sentenced to do it. And then when you've done it, then you're forgiven, and reinstated. But NSPE has a detailed log of ethical cases.

Now, the principal issue in the development of codes of ethics-- now, I'm making historical remarks-- the principal issue is over whistleblowing. Better stated, has been over whistleblowing. Now let's talk about why that is so.

There has been, and continues to be, considerable discussion as to whether or not-- and if so, if it is good-- that the professional societies are controlled by the managers, not by what they call the "line engineers." Now, you can bring that same argument into the university. The words will change, but also, the culture will change.

Who controls the institution, the university? The administrators or the faculty? I mean, we've left out the students, and we've left out the trustees. But that's the way most of the arguments go.

Most administrators will tell you the faculty control the university. Not all the faculty will say that, but most of the administrators that I know will come right in here and say, the faculty controls the university. In a corporation, the managers control, not the line engineers. Very few people will say that engineers control the organization. But the managers control professional organizations.

Now, why is that? And when I say control, I'm saying that the arguments have been-- and I haven't looked at, I haven't seen any recent data, but the data used to come out when we were talking about building codes of ethics for engineering professional societies. That was in the '80s, and I was chair of one of those committees.

I'll tell you about my experience. This is back in the '80s. But the issue was, who are the chairs of the major committees? Who are the presidents? Who are the major officers in the professional engineering organizations? Many of them, most of them, are corporate people. And most of them are managers. Now, why is that? Well--

STUDENT: [INAUDIBLE].

TAFT BROOME: There wasn't any difference between the professional societies. They're almost all that way. Now, here are some of the issues-- one of the papers I wrote back in the '80s cited data that were collected, that I did not collect and analyze. I just cited the data.

And I remember the data because it's easy to remember. 67% of engineers by age 40 are managers. I don't if that's changed. But that was the issue at the time that the professional societies in the '80s were developing their codes of ethics, which meant that if you want an older person, a senior person, to be an officer, the chances are that person was a manager.

The second one that was talked about a little bit, but not talked about a lot, but was very important-- and I called it part of the collective unconscious of the profession-- was that management was symbolic of success among engineers. And the engineers who wanted to remain project managers-- I mean, they call themselves managers, but the engineer who's out in the field, the field engineers-- didn't think that way, but did say that their power in the organization was low, and that their salaries were low. So there was this aura. There remains this aura in corporate America, of success in engineering being management success.

Not so in a university. Most people will tell you the highest that you can ever achieve in a university is full professor, not president, not one of the Distinguished Professor positions. Mainly because at many universities-- I don't know about MIT, but I know about many universities-- that the Distinguished Professor positions are not people who are on appointments or promotions committees of departments.

I don't know if it's that institute professors are on APT committees. Probably not. So the power and all of that, the prestige, resides in those tenure-track positions among faculty.

Don't carry that model outside the university with a lot of confidence that you're going to be successful. You're not going to find it successful in business or in government, I don't think, in the main. If you want to look for particular cases, then I'll leave that for you to do.

So the whistleblowing issue was over the word "loyalty." And it was mainly argued that-- I mean argued by managers who wanted their subordinates to be loyal. And it was hotly debated. People lost friendships. It was really bad.

But what happened was the first organization to come out and say, in its code of ethics, that the public interest is higher than the employer's or client's interests was the NSPE. And they did it in the early '40s, not in the '80s. And if you really want to enjoy a history of engineering, there's a book by a man named Edwin Layton, L-A-Y-T-O-N.

You have to go to the library. You're not going to get this one off Amazon. You might get it off of eBay. Somebody might have it, they're willing to sell it.

But it's called *Revolt of the Engineers*. And what he says is that the NSPE was founded by a group of young rebels in engineering who said they're tired of all of this environmental spoilage. And we seem to think that environmental issues came up in the '70s. Well, actually, they came up before the '40s with President Hoover, who was an engineer and who ran on an environmental issue, said, I'm an engineer, I can straighten out these environmental things.

So the NSPE was founded by a group of young engineers, radicals. And they say they're going to make an engineering organization that the others should emulate. And they were practicing engineers. And a key issue is that they were engineers who were very young.

If you get out this book on *Revolt of the Engineers*, I invite you to look in the index for the word "technocracy" first, and read the pages he's got in there on the Technocracy Movement of the '20s, the 1920s. And this was a movement in the 1920s whose theme was that a technological society like America should be controlled by engineers. In other words, they were advocating that a qualification to be President of the United States was that you have to be an engineer.

I mean, they had [INAUDIBLE] for a little while. And it was all in the press. And then they found out that the leader of it was a fraud, wasn't an engineer. And the words that Layton uses to describe what he was comes out of some of the newspapers at the time. They call him a "denizen of Greenwich Village."

Now, I don't know what the metaphor for being a denizen of Greenwich Village is today, but in my time, it was Haight-Ashbury. It was two street corners in San Francisco where all the hippies hung out. And everybody, you could walk to any corner, and somebody was up on the platform giving a speech about better society, and all of this.

And people were high off of this, and high off of that. And everybody was discussing all night, literally all night long, all kinds of political issues. Is there any such metaphor like that today? In England, you've got-- what's that? Go ahead.

STUDENT: [INAUDIBLE].

TAFT BROOME: There's Hyde Park. OK, well, Greenwich Village was it in the '20s. So that was the thing. And a lot of engineers lost their reputations and all of that. But Layton has a lot of good things to say about the movement, that it was the first time that they really ever got together and really tried to do something about a big social issue.

So another driving force for codes of ethics was-- and some will say, I think Layton would say, was the most important driving impetus for codes of ethics-- was that the engineers were jealous of the doctors and the lawyers. Because doctors and lawyers were called "professionals." And a lot of people did not want to attach the word "professional" to engineering, to engineers.

So it was a status issue, social status. And the engineers thought that by having a code of ethics, they would then achieve professional status. So a lot of the managers were interested in a code of ethics for that reason. It wasn't so much portraying engineers as good people, or trying to make engineering a good-- I don't want to say profession right now-- a good calling. But they wanted to make sure that it was a profession, and that we were as professional about what we do as doctors and lawyers.

Now, that's documented. That doesn't run just under the conscious, subconscious area. Engineers were very jealous about that.

How do engineers-- how do you perceive-- what do engineers think about their status in the United States? Now, I'm saying, I think you know why, United States because when you get out of the United States, you can go to other places. For example, you can go to Russia and Germany. Engineering-- all you have to say is "engineer," and you're way up there.

STUDENT: There's two questions-- what do engineers think about their status or what status engineers have, and what does the public [INAUDIBLE]?

TAFT BROOME: I want you-- actually, I'm asking an open-ended question. I'm just trying to get a feel for how this discussion runs today. And I do not have-- and I want a generational perspective, if you can give that to me.

STUDENT: My experience has been that in college, students respect engineering students as the ones who are doing really hard work and [INAUDIBLE] a lot [INAUDIBLE]. And as a result, a lot of engineers are proud of [INAUDIBLE] I think.

STUDENT: [INAUDIBLE] other students [INAUDIBLE]?

TAFT BROOME: Yeah, so like the students who are studying the humanities, who are majoring in the humanities, it's like, I admire that you do engineering [INAUDIBLE]. Complex differential equations. But then, the public doesn't all have the experience of attending college with engineering students. I think there's just lack of awareness of what engineering students [INAUDIBLE].

STUDENT: [INAUDIBLE].

STUDENT: Yeah, I've heard that engineering is not viewed as high a status as much of the helping profession in the United States, as it is in India or China [INAUDIBLE], where in those countries, all parents want their children to be engineers. And that's a huge generalization, but I don't think a lot of parents [INAUDIBLE].

TAFT BROOME: I gave a talk at a Triple A-S meeting, the American Association, and in the audience, this guy got up, said he was from Poland, said he was an engineer. He must have been about age 45 or 50. Said he had really just first come to the United States within the last five years or so.

And he found it a shock that the doctors had so much prestige here and the engineers had so little. And he said that in Poland-- and these are his words-- he said in Poland, medical students are the ones who flunked the engineering exam for entry into an engineering school. If you think you can get into an engineering school, and you take the exam and you fail, then you go to medical school.

Now, let's exchange some more impressions. I'll take responsibility for my impressions, insofar as I've written some of this stuff down somewhere. But what you just said about what students think about each other-- those same words would have been used by me and anybody I knew when I was a student, an undergraduate student.

And this is in the first half of the 1960s. So that has not changed. That's interesting.

When I became a faculty member, the whole thing flipped 180 degrees. Because faculty don't believe that about one another. Faculty believe-- and this is a legacy of the Greek heritage-- see Aristotle, you start with Aristotle, Aristotle had a gradation of what we call today higher order thinking.

And the kind of thinking that engineers did was about third way down-- that the average scholar today believes that the intellectual disciplines consist of the sciences and the humanities. And if you press them, they'll put up, in the same category, the high arts. They believe that somebody who can appreciate a good painting is more intellectual than an engineer.

STUDENT: [INAUDIBLE].

TAFT BROOME: Hasn't changed. But in the academy, I don't think that you'll-- now--

STUDENT: That wasn't really my experience. But as an observer, [INAUDIBLE]

TAFT BROOME: And you did your undergraduate at Princeton, right?

STUDENT: Mm-hm.

TAFT BROOME: Yeah, well, if you get out of-- there are places where you'll-- I think MIT is a place where you get a lot of respect for engineering among faculties.

STUDENT: Yeah, because most of them are.

TAFT BROOME: At RPI, you'll get a lot of respect, because these are engineering schools. But when you start dealing with faculties, they really don't think that engineering requires higher-order functions of the mind for thinking.

STUDENT: [INAUDIBLE]

TAFT BROOME: If you get a collection of a distribution of faculty from all the different-- law faculty over here, humanities, arts, engineering, medicine-- the house will divide. And the engineers, the physicians, will fit on one cat side. The sociologist will fit on the other side, but the social workers will fit over with the engineers.

The economists will fit on the other side, but the business people will fit over there with the engineers. In other words, they'll divide the house. There's an intellectual and there's a practical way of thinking, and that the intellectuals do not believe that the rest of them are intellectuals.

Now, there's a good book. It's a little book. It's about 20 pages long. You can still buy it by a man named C.P. Snow. Oh, you've read this?

STUDENT: I haven't read it yet, but it's been recommended. [INAUDIBLE].

TAFT BROOME: Two cultures-- there are a lot of books that are better than that book. The good things about that book is number one, it's short, and number two is that it had a lot of impact on America in the early '50s, a lot of impact on America. Everybody was reading it. Everybody was talking about it.

And I think that some of that is laid out there. Another one is just not to worry too much about the theory of the disciplines, but just get what Aristotle had to say about the mind and thinking, what he had to say. And a lot of that filters over today. And now, I don't buy into all that, but there's a lot of that out here.

And so therefore, the engineers who were professionals, and according to this clock, I've got one more minute-- since then, they don't like it. And the code of ethics was a means, was part of the means, of getting more status in America. So we are out next week. We're out.

We don't have class on Tuesday, but we have class on Thursday. And your reading assignment is to read everything in this textbook on codes of ethics. Now when I say "everything," read everything, 90% of that is one code after the other.

And you read that like read a dictionary. You don't read all of it, but you try to read some of them in depth, and see where the rest of it fits into a pattern. And what I want you to look for is a statement that all of them will have in there, that addresses the whistleblowing issue.

And it's called the Paramount Clause. It's usually the first one, but it has to do with the relative importance of serving the public as opposed to clients and employers. And then anything else you might think it is interesting in those codes. And my time is up, but yours is not.

STUDENT: And you would like me to bring a project update.

TAFT BROOME: Give us, how about five minutes. And anybody else that wants to-- my attitude is anybody in this class can give a paper. So you just have to tell me.

If you have a minute, Tony, I'd like to tell you-- I never got to Texas. OK, class is over, but I'm going to tell you what the big issue about Texas is. And really what I wanted-- and it turned out it would really have been good if you could have gone, Tony-- it was an experience where starting from the grassroots faculty up, and then into the Board of Trustees and the president and back down, and the provost, ethics is what they call a center of excellence, now, for a whole university.

It's good to see what that looks like. At Johns Hopkins, their center is medicine. At other places, you have your other centers of where you are the best, but they want to be the best in ethics.

STUDENT: That's Texas Tech.

TAFT BROOME: Texas Tech, and it comes down from accreditation visits because accrediting bodies now will always say, well, what do you do that's better than what everybody else does? They have different names, but the word "center" will be in it some way or another. I don't think they have that at MIT because a place like MIT, you think, we're going to be the best in everything. But when you get outside of MIT and go to most of your big state universities, then that center of excellence issue is going to be a mandate from the boards and the accrediting people. OK, Thank you.